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STUDENT LESSON
M16- MINE

MOS 12B
COMBAT ENGINEER
SKILL LEVEL I

PREPARED BY
UNITED STATES ARMY ENGINEER SCHOOL
FORT BELVOIR, VIRGINIA 22060

FOR
U.S. ARMY RESERVE SCHOOLS

U.S. ARMY TRAINING SUPPORT CENTER
RESERVE SCHOOLS DIVISION
FORT EUSTIS, VA. 23604

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LESSON

This lesson is in two parts and contains instructions on two tasks; Task No. 051-192-1002 (Install the M16A1 bounding antipersonnel mine with and without tripwires) and Task No. 051-192-1012 (Disarm the M16A1 bounding antipersonnel mine equipped with and without tripwires). Part one teaches M16A1 installation and part two teaches mine recovery procedures. The training objectives for these tasks are stated below.

TASK #051-192-1002

Training Objectives

TASK: Install the M16A1 antipersonnel mine with and without tripwires.

CONDITIONS: Given two practice M16A1 mines, two M605 fuzes, one M25 fuze wrench, two stakes, an 8 pound sledgehammer, one entrenching tool, one sandbag, and a pencil, in an outside training area, during daylight.

STANDARDS: The installed mine will be fully armed using correct procedures. Mines armed for tripwire detonation will be buried so the Mine Release Pin Ring is above ground level and the top of the mine is covered with earth. Two tripwires will be attached to the Release Pin Ring, forming a wide "V". Mines armed for pressure detonation will be buried so the Mine Release Pin Ring is below ground level and the Mine Pressure Prongs are exposed. The mine will be sufficiently camouflaged with locally available material to preclude detection by sight.

TASK #051-192-1012

TASK: Disarm the M16A1 bounding antipersonnel mine equipped with and without tripwires.

CONDITIONS: Given two buried M16A1 antipersonnel mines, one armed for tripwire detonation and one for pressure detonation, safety pins, M25 fuzing wrench, mine shipping plug, entrenching tool, wire cutters and a requirement to recover the mines, during daylight hours.

STANDARDS: The M16A1 mine will be disarmed and removed, using correct disarming procedures without causing detonation. Safety pins will be replaced, positive safety pin first and slack tripwires will be removed. The M605 fuze will be removed, the shipping plug replaced and all mine parts will be recovered.

STUDY RESOURCES

These references were used to prepare this lesson and are available for your use anytime, except during testing. Ask the manager if you want to use a reference.

FM 20-32 Mine/Countermine Operations at the Company Level

TM 9-1345-203-12 & P Land Mines GTA 5-10-27 Mine Card

STUDENT ADMINISTRATIVE INSTRUCTIONS

Pretest Option

You have a choice of either taking the pretest or the lesson. The lesson will assist you in learning the training objective.

The pretest will test your knowledge and skills on the training objective.

Decide now.

If you have decided to take the pretest, notify the manager NOW. If you have decided to take the lesson, continue reading.

LESSON INTRODUCTION

Welcome to the lesson on the M16A1 bounding AP Mine. This lesson explains how to safely and correctly place into operation and recover the M16A1 antipersonnel mine. The M16A1 antipersonnel mine is designed to bound into the air about 2 to 4 feet, then explode, throwing small pieces of steel in all directions. Eight or more pounds of pressure on the pressure prongs, or 3 or more pounds of pull on either tripwire, will cause the fuze to function and the mine to explode.

Learning the correct procedures will assist you in performing your MOS, give you more confidence in your ability to cope with items new to you and make you much more valuable to your unit. This is a self-study, self-paced lesson. Even so, if you have questions your lesson manager will clarify the lesson material.

To become familiar with the mine and fuze you are studying, look at Figures 1 and 2 for a few minutes, locate the parts marked with a star (*) on your inert mine and fuze, then study parts 1 and 2 of the lesson.

CAUTION

Always handle mines and fuzes carefully. Mines and fuzes that are damaged from careless handling may be dangerous or may not function properly. Practice mines and fuzes will be handled as though they are real.

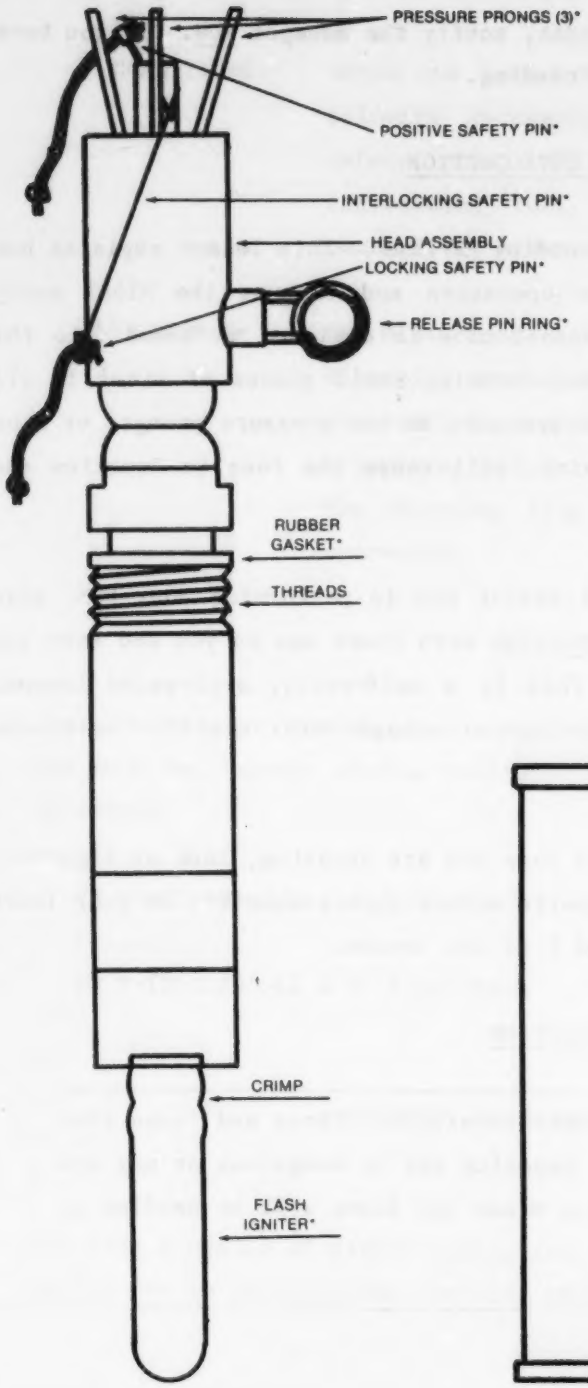


Figure 1 - M605 Fuze

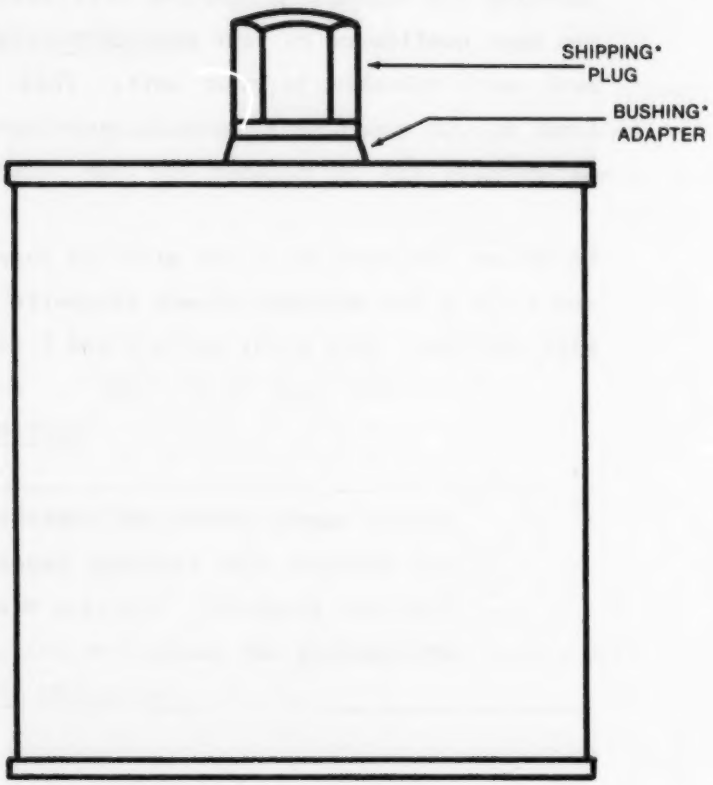


Figure 2 - Mine M16A1

READEX FICHE best copy available

LESSON PART ONE

Install the M16A1 bounding antipersonnel mine with and without tripwires.

The six steps below are listed in the sequence that permits you to safely and correctly arm, bury and camouflage an M16A1 AP mine. These steps are fully explained in this part of the lesson. Remember to handle all mines as if they were real.

*STEP 1 - Inspect the mine.
*STEP 2 - Examine the fuze.
STEP 3 - Fuze the mine.
**STEP 4 - Prepare a hole for burying the mine.
STEP 5 - Bury the mine for tripwire arming.
STEP 6 - Camouflage and arm mine with tripwires.

* You may do either one first but both must be done before 3.
**May be accomplished 1st, 2nd, 3rd or 4th.

PROCEDURES

STEP 1

INSPECT THE MINE

Look the mine over for rust, bad dents (not caused by normal cautious handling) and cracks. Use the closed end of the M25 fuzing wrench issued with the mine (see Figure 3), and remove the shipping plug (See Figure 2) from the fuze well located in the top center of the mine.

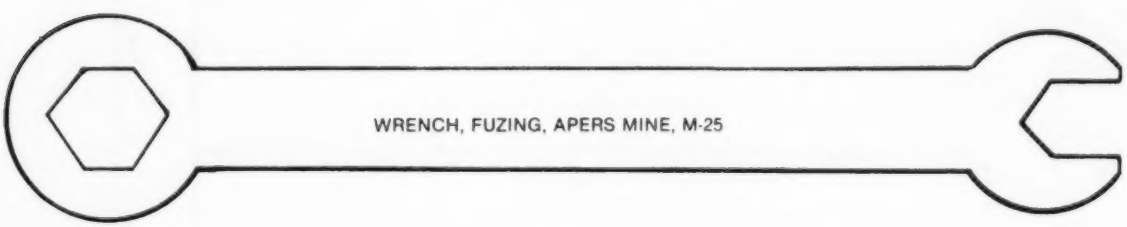


Figure 3 - Fuzing Wrench M25

Inspect the fuze well and flash tube for rust and foreign material. Clean any foreign material from the fuze well by turning the mine upside down and tapping it gently on the palm of your hand.

Any mine that is badly damaged, heavily rusted or has foreign material tightly lodged in the fuze well should be separately stored for destruction by specially trained personnel. Use the open end of the fuzing wrench to tighten the bushing adapter, located at the top of the fuze well.

So the mine looks OK. How about the fuze? Go to Step 2.

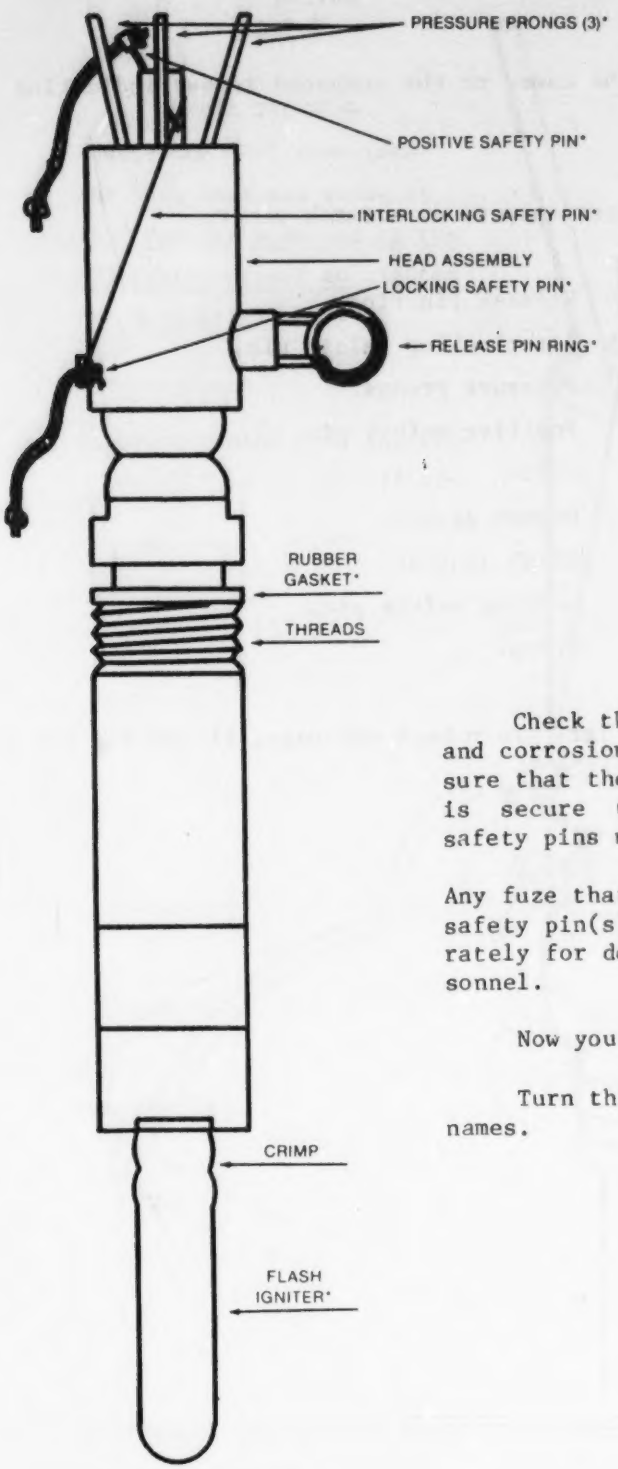


Figure 4 - M605 Fuze

STEP 2
EXAMINE THE FUZE

Check the M605 fuze closely. Look for rust and corrosion. Look for dents and cracks. Make sure that the factory crimp of the flash igniter is secure (see Figure 4). Make sure that the safety pins move freely. DO NOT REMOVE PINS.

Any fuze that is damaged, rusty, or has tight safety pin(s) will not be used. Store them separately for destruction by specially trained personnel.

Now you have a mine and a fuze ready to use.

Turn this page for a match-up review of part names.

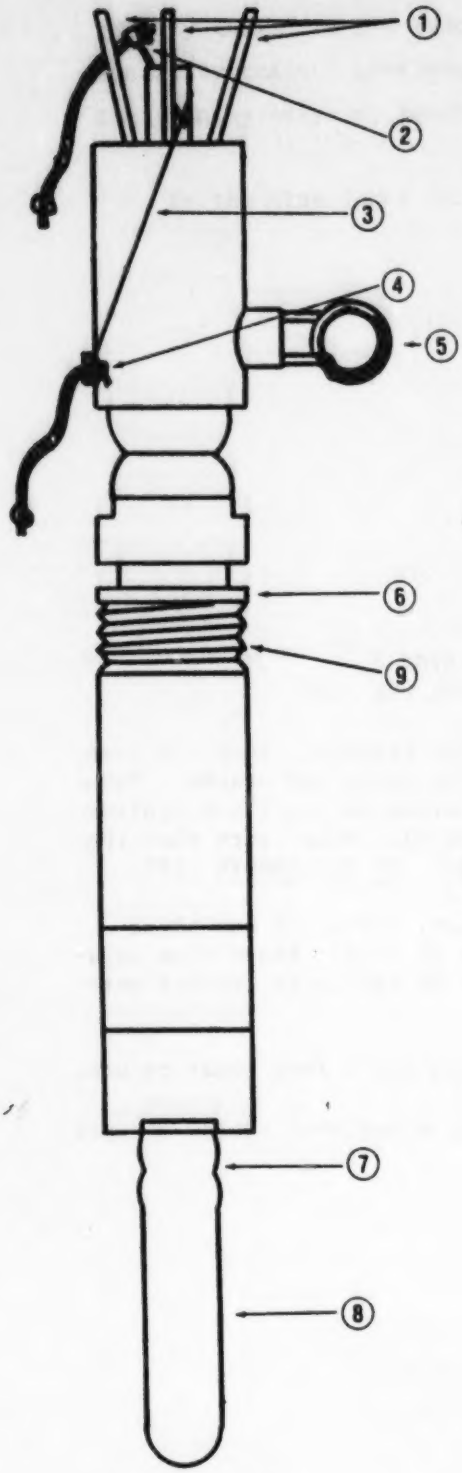


Figure 5 - Fuze

REVIEW

Match the names to the numbered arrows indicating parts.

Write your answers on scratch paper.

a. Release pin ring.
b. Interlocking safety pin.
c. Pressure prongs.
d. Positive safety pin.
e. M605.
f. Rubber gasket.
g. Flash igniter.
h. Locking safety pin.
i. Crimp.

Easy so far? Turn back one page, if you are not sure.

Go on to Step 3.

STEP 3

FUZE THE MINE

Insert the M605 fuze into the fuze well and screw it in. Use the open end of the M25 fuzing wrench to tighten the fuze firmly.

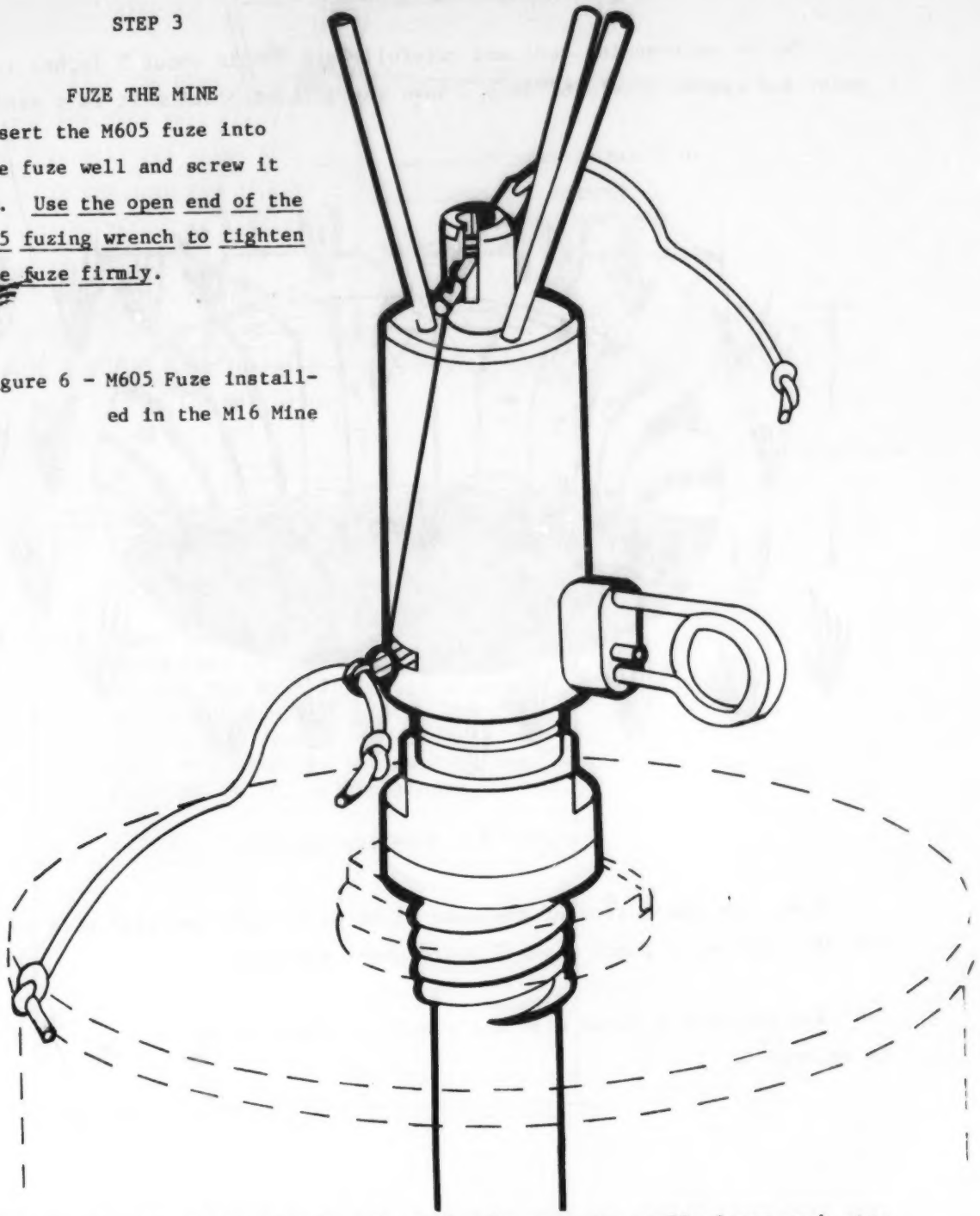


Figure 6 - M605 Fuze installed in the M16 Mine

This seems very simple doesn't it? Just make sure you really learn each step before moving on.

Now go to Step 4.

STEP 4

PREPARE A HOLE FOR THE MINE

Use an entrenching tool and carefully dig a hole about 5 inches in diameter and approximately 6" deep, Save the dirt by placing it in a sandbag.

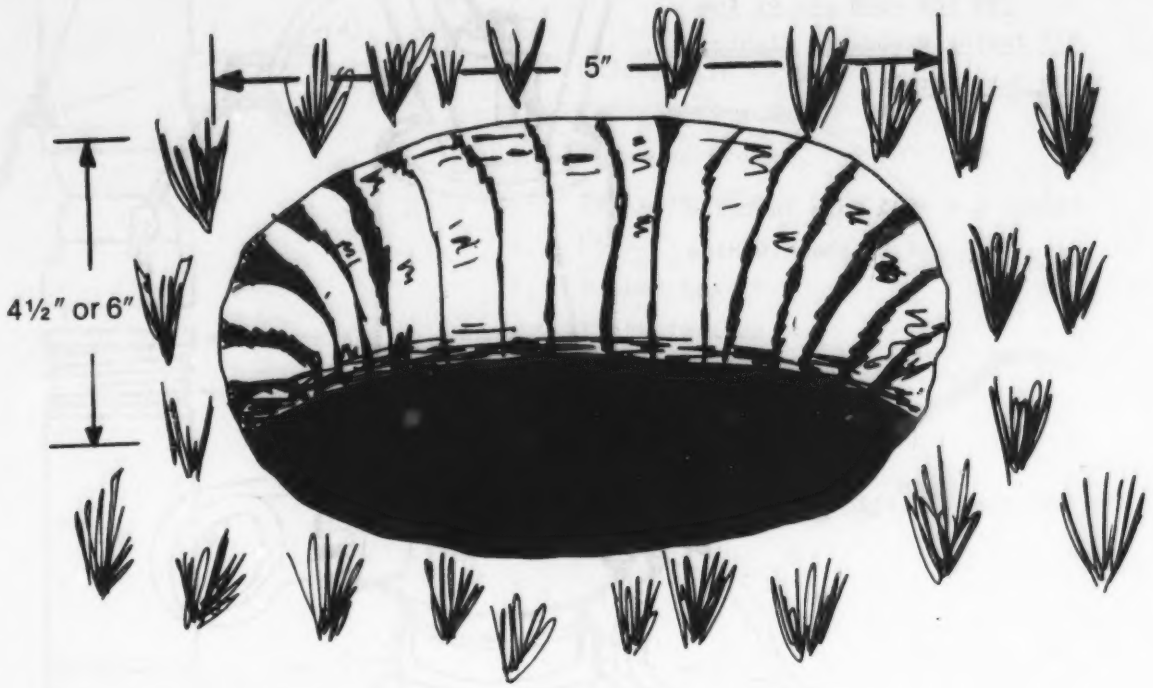


Figure 7 - Hole for M16 Mine

Make sure the bottom of the hole is firm; if not, you will need to pack the dirt bottom or place a small board under the mine.

You now have a fuzed mine and a hole to place it in.

Go to Step 5.

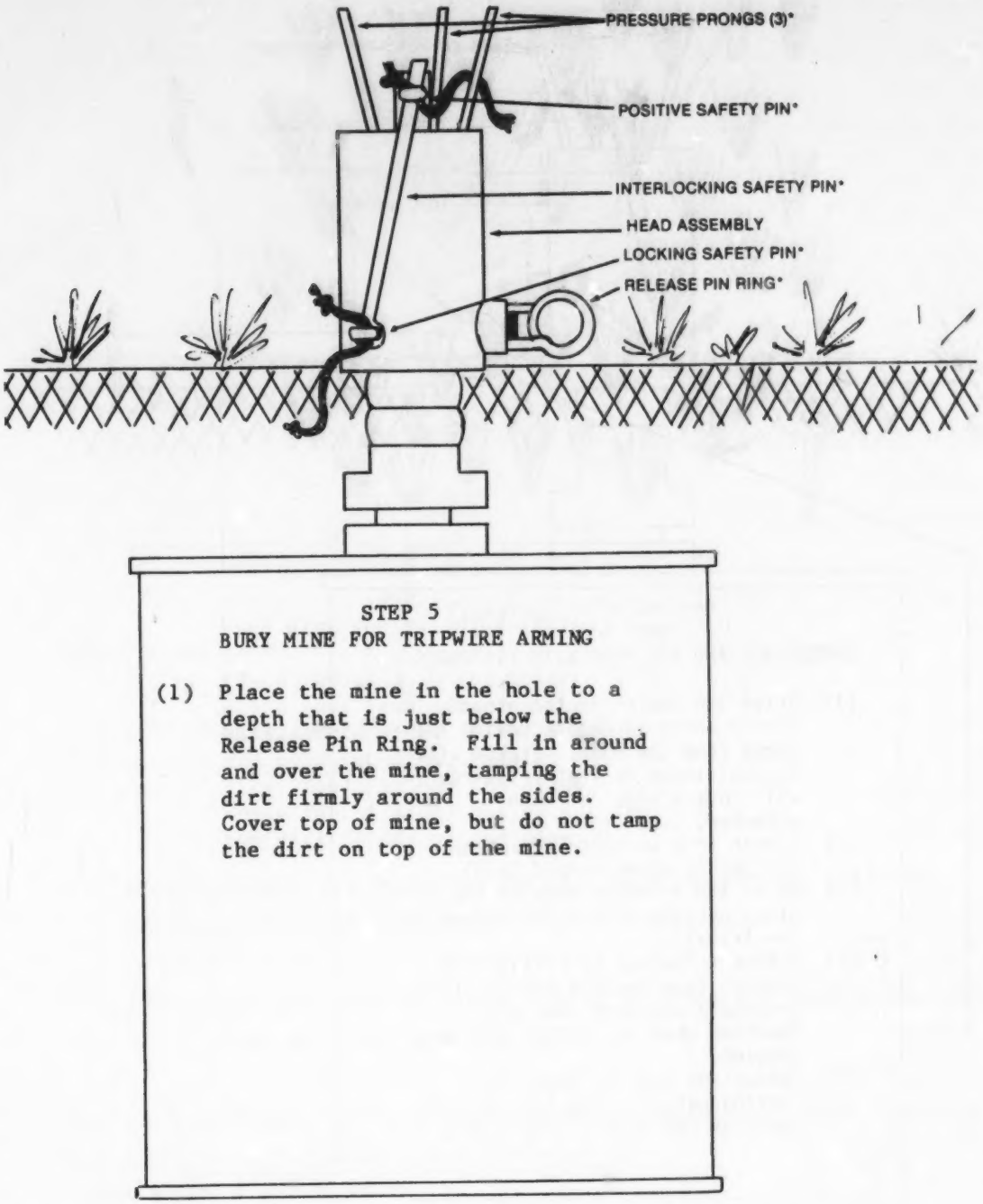
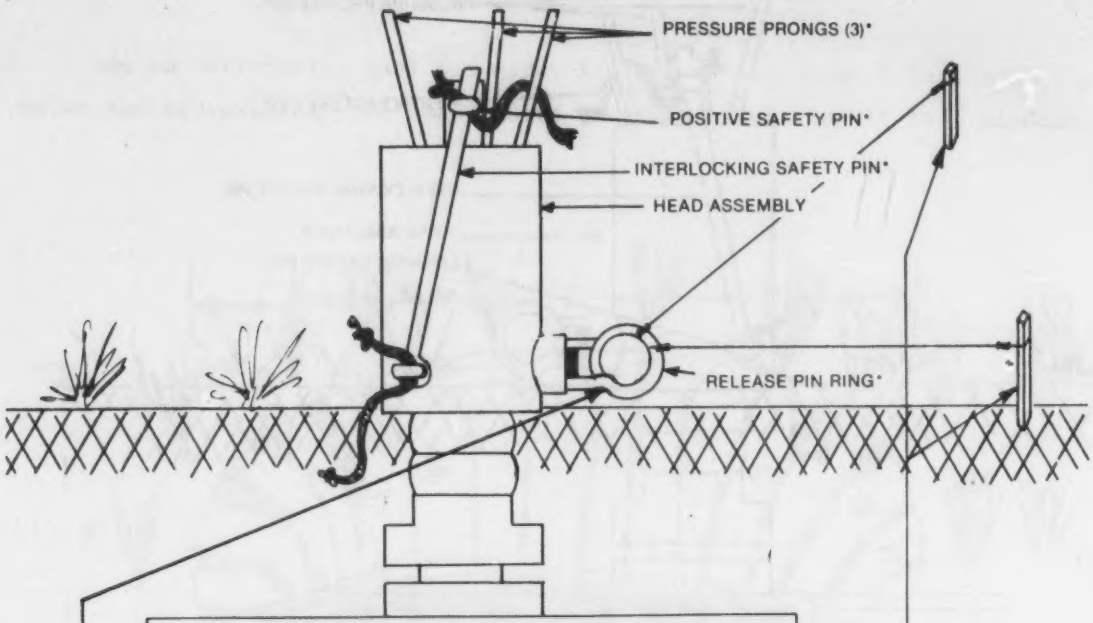

PRESSURE PRONGS (3)*
POSITIVE SAFETY PIN*
INTERLOCKING SAFETY PIN*
HEAD ASSEMBLY
LOCKING SAFETY PIN*
RELEASE PIN RING*
STEP 5
BURY MINE FOR TRIPWIRE ARMING
(1) Place the mine in the hole to a depth that is just below the Release Pin Ring. Fill in around and over the mine, tamping the dirt firmly around the sides. Cover top of mine, but do not tamp the dirt on top of the mine.

Figure 8 - Mine M16A1 with M605 Fuze



STEP 6
CAMOUFLAGE AND ARM MINE WITH TRIPWIRES

(1) Drive two stakes in the ground firmly about 10 meters toward the enemy from the mine. Stakes will be positioned so that tripwires will form a wide "V" when attached, (see Figure 10).
(2) Attach trip wires to stakes about 2-3 inches above ground level.
(3) Go to the friendly side of the mine, outside of the "V" formed by the tripwires.
(4) Attach tripwires to release pin ring on fuze leaving enough slack to assure the mine does not function when the safety pins are removed.
(5) Camouflage area to leave it looking natural, keeping the pull cords on the safety pins clear.

It is getting a little more tricky now. Do it right before you go on to the next page.

Figure 9 - Mine M16A1 with M605 Fuze

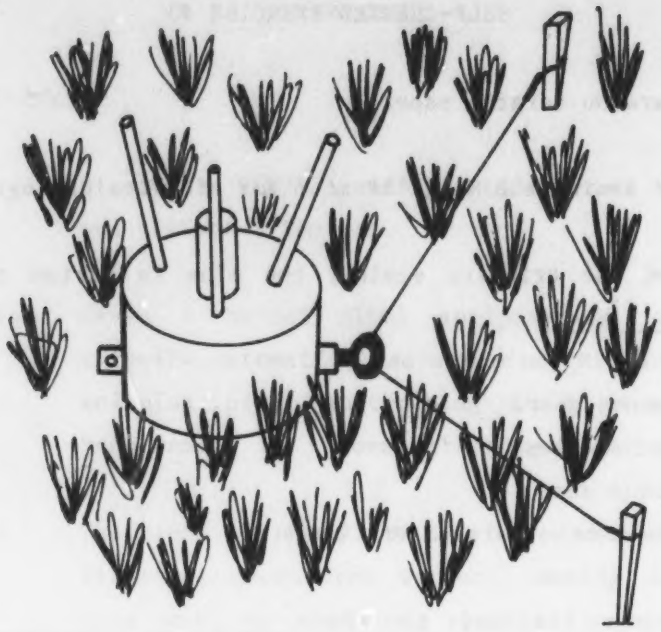


Figure 10 - Tripwires

STEP 6 (continued).

(6) - Remove locking safety pin.

(7) - Remove interlocking safety pin.

(8) - Remove positive safety pin.

CAUTION

If safety pins are tight, DO NOT USE FORCE TO REMOVE, call the manager. Save all pins for storage or later use.

(9) - Move away from the mine, taking with you the sandbag and all other items not natural to the area.

When you understand how to tripwire an M16A1 bounding AP mine, turn the page and work the self-checked practical exercise.

SELF-CHECKED EXERCISE #3

Write your answers on scratch paper.

When burying and arming the M16A1 AP mine for tripwire arming:

1. When buried for tripwire arming, the mine is buried to depth that is _____.

   a. 3½" inches deep
   b. 4½" inches deep
   c. 6" inches deep
   d. Just below the Release Pin Ring

2. Tripwires are fastened to the _____.

   a. Locking safety pin.
   b. Release pin ring.
   c. Interlocking safety pin.
   d. Positive safety pin.

3. Tripwires are _____.

   a. Left slack.
   b. Pulled tight.
   c. Buried.
   d. Marked with white tape for easy location.

ANSWER LOCATION

1. Step 4.
2. Figure 9.
3. Figure 9.

You have now completed Part One. When you are ready, go to Part Two.

PART TWO

TASK # 051-192-1012

TASK: Disarm the M16A1 bounding antipersonnel mine equipped with and without tripwires.

CONDITIONS: Given a buried M16A1 antipersonnel mines, armed for tripwire detonation, safety pins, M25 fuzing wrench, mine shipping plug, entrenching tool, wire cutters, and a requirement to recover the mines, during daylight hours.

STANDARDS: The M16A1 mines will be disarmed and removed using correct disarming procedures without causing detonation. Safety pins will be replaced, positive safety pin first, and slack tripwires will be cut. The M605 fuze will be removed, the shipping plug replaced and all mine parts will be recovered.

This part of the lesson explains how to safely and correctly recover an M16A1 bounding AP mine armed with tripwires. Remember this mine is designed to bound into the air from 2' to 4' then explode throwing small pieces of steel in all directions. Eight or more pounds of pressure on the pressure prongs or 3 or more pounds of pull on either tripwire will cause the mine to function.

After it is located and checked for booby traps, the following six (6) steps will be used to recover the M16A1 bounding AP mine. These steps are fully explained in this part of the lesson.

STEP 1 - Uncover top of mine and examine it.
STEP 2 - Insert safety pins.
STEP 3 - Cut tripwires.
STEP 4 - Remove mine from ground.
STEP 5 - Remove fuze assembly.
STEP 6 - Replace shipping plug and store mine and fuze.

Keep these steps in mind as you study the explanations on the following pages.

CAUTION

Always handle mines and fuzes carefully. Mines and fuzes that are damaged from careless handling may be dangerous or may not function properly. Practice mines and fuzes will be handled as though they are real.

PROCEDURES

STEP 1

UNCOVER TOP OF MINE AND EXAMINE

Carefully remove camouflage and dirt from around and over fuze, do not pull tripwires or apply pressure to pressure prongs. Only remove enough to clean both safety pin holes.

(See Figure 11.)

Examine carefully for evidence of malfunctions, damage or tampering.

Do not attempt to neutralize a damaged, tampered with, or malfunctioned mine.

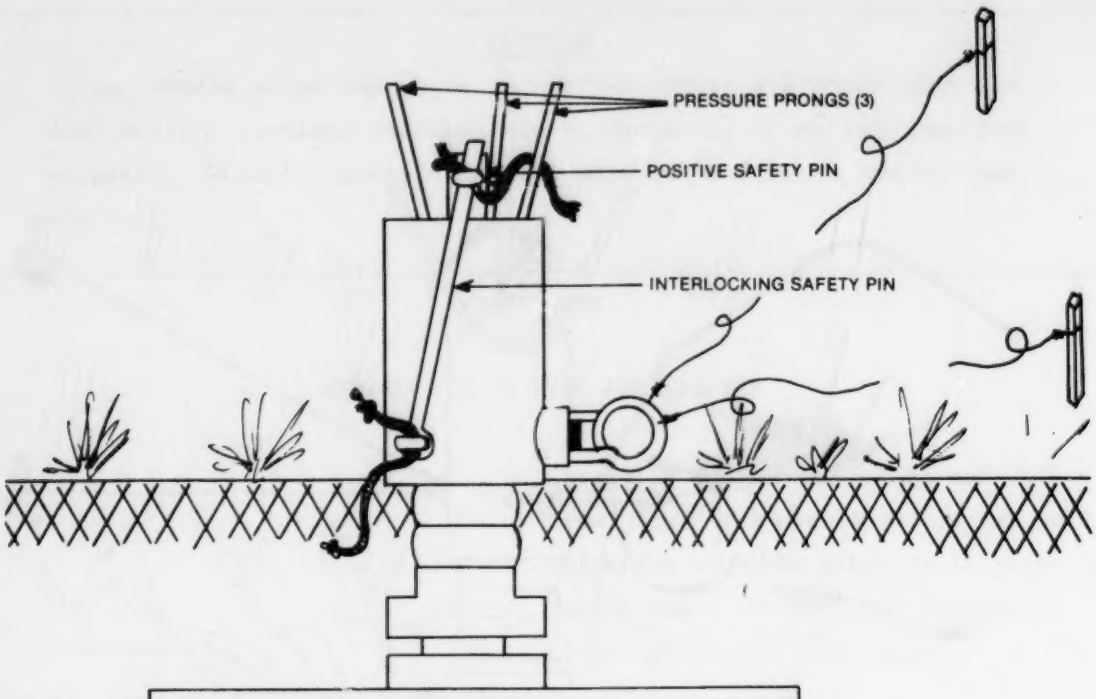
Figure 11 - M605 Fuze w/Tripwires

Do not allow mine to move!

Now that you can see it, what's next? Proceed to Step 2.

STEP 2
INSERT SAFETY PINS
Carefully insert positive safety pin then insert the locking safety pin. Use original safety pins, nails or wire of the correct size. Be sure that the pins you use will not fall out while the mine is being removed. (Figure 12.)
Do not allow mine to move!
OK, not as tough now?
Proceed to Step 3.

Figure 12 - Mine M16A1 with M605 Fuze



STEP 3
CUT TRIP WIRES

After safety pins have been replaced cut all slack tripwires attached to release pin ring. Do not cut tight tripwires! (Figure 13).

Do not allow mine to move!

WARNING: Tight tripwires may mean that the mine has been booby trapped. Booby trapped mines are to be destroyed in place. If you find tight tripwires, notify your lesson manager or in an actual situation, notify your squad leader.

Hand check the ground around the mine. If the ground is soft, it may mean that the mine has been boobytrapped. Mark the mine location and notify your lesson manager or squad leader.

NOW THE MAIN FUZE IS NEUTRALIZED.
Proceed to Step 4.

Figure 13 - Mine M16A1 with M605 Fuze

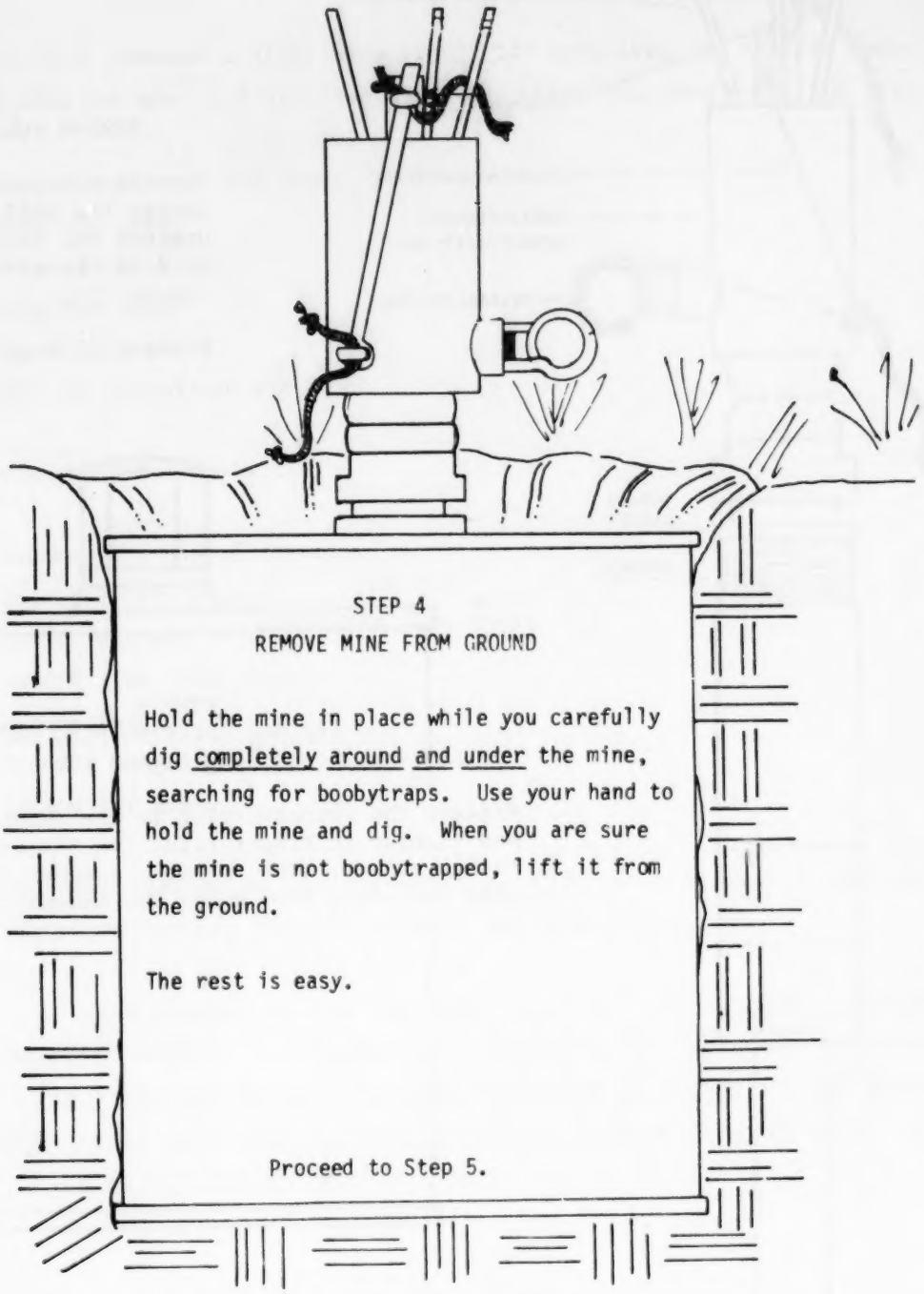

STEP 4
REMOVE MINE FROM GROUND
Hold the mine in place while you carefully dig completely around and under the mine, searching for boobytraps. Use your hand to hold the mine and dig. When you are sure the mine is not boobytrapped, lift it from the ground.
The rest is easy.
Proceed to Step 5.

Figure 14. Removing the M16A1 mine from the ground.

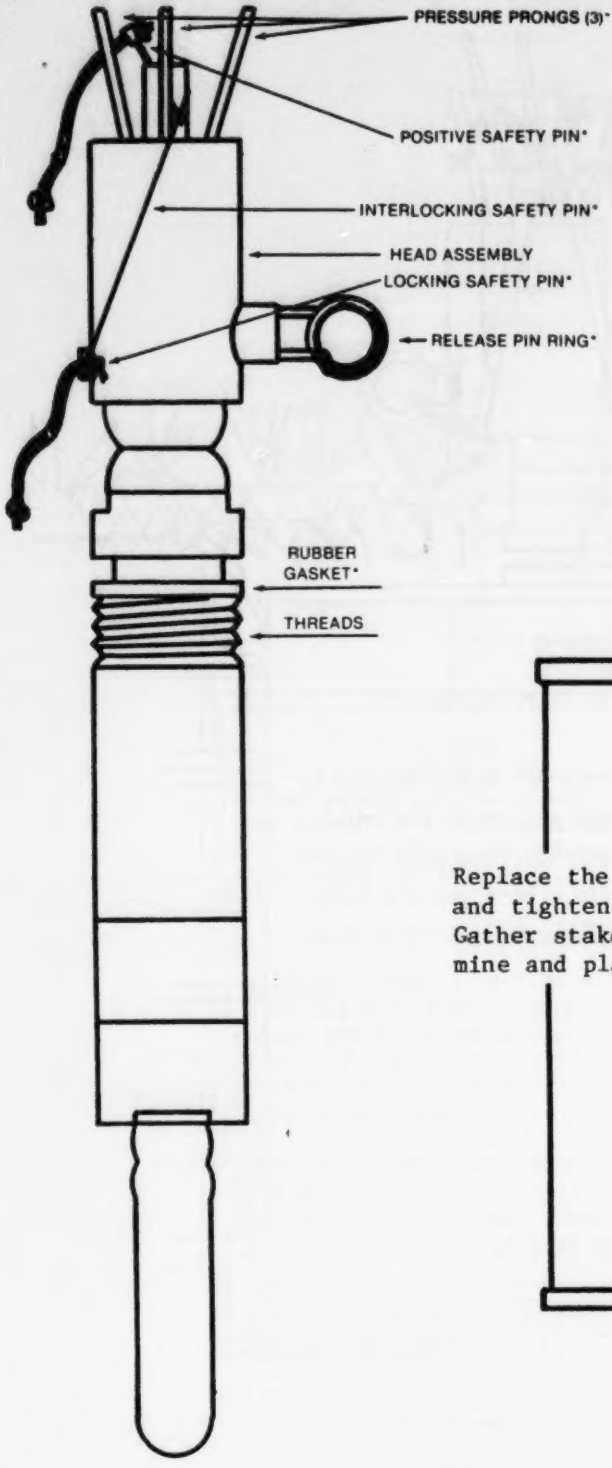
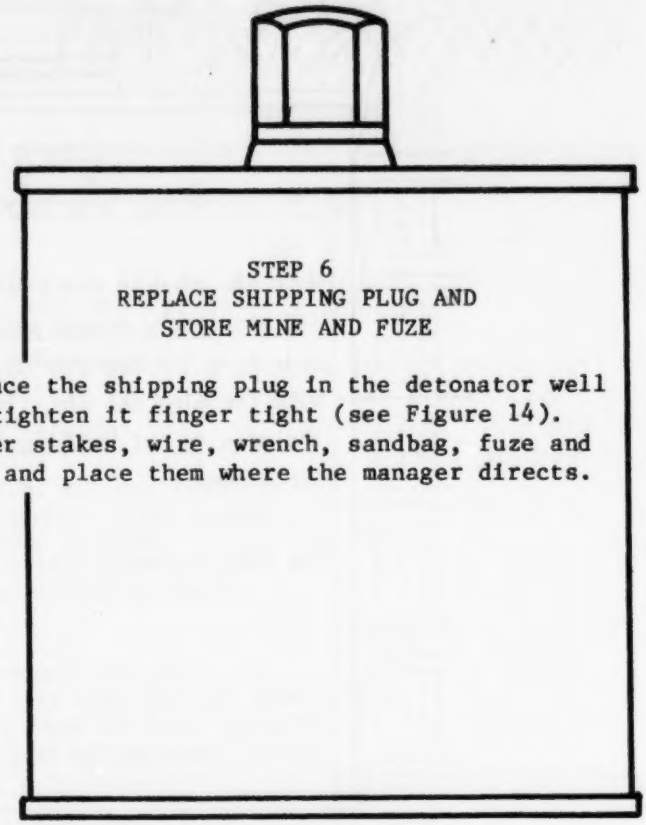


Figure 15 - M605 Fuze

STEP 5
REMOVE FUZE ASSEMBLY

Use the M25 fuzing wrench to loosen the M605 fuze, then unscrew the fuze and remove it from the mine. (See Figure 13).

Proceed to Step 6.



STEP 6
REPLACE SHIPPING PLUG AND
STORE MINE AND FUZE

Replace the shipping plug in the detonator well and tighten it finger tight (see Figure 14). Gather stakes, wire, wrench, sandbag, fuze and mine and place them where the manager directs.

Figure 16 - Mine M16A1

When you know how to do these six steps in order, work practical exercise #4.

PRACTICAL EXERCISE #4

Now that you have removed a M16A1 mine armed with tripwires you need to practice installing the mine and removing it. The steps you need to follow are:

1. Inspect the mine and fuze.
2. Fuze the mine.
3. Prepare the hole.
4. Bury the mine.
5. Rig tripwires.
6. Arm and camouflage the mine.

Then to remove the mine you will:

1. Uncover the top of the mine.
2. Insert safety pins.
3. Cut tripwires.
4. Remove mine from ground.
5. Remove fuze.
6. Replace shipping plug and store mine.
7. Police the area.

Now that you have learned to put the practice M16A1 mine in with tripwires, you are ready to be tested. See the manager and he will test you.

REMEMBER: You have learned to put the M16A1 mine in with tripwires, it can also be installed without tripwires. The procedure is the same, with one EXCEPTION. The exception is that the mine is buried to a that is just below the Pressure Prongs when used without tripwires instead of just below the Release Pin Ring as you learned in this lesson.

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